

will determine that RAM 32 is failed, and send a control signal to the bridge chip 35. The bridge chip 35 functions as a decoding element, which receives the control signal from the BIOS memory 31 and in response thereto, sends a driving signal to the LED 36 through I/O port access over I/O port 351." Column 4, lines 32 – 35.

It is respectfully submitted that the Lin reference fails to teach or suggest the visual indicator of claim 1 because the disclosure of a LED driven by a bridge chip to indicate failure of a RAM is not a teaching or suggestion of a visual indicator coupled to and controlled by a microprocessor for providing a visual indication when a fault on a computer motherboard is detected during execution of diagnostic instructions by the microprocessor. In the Lin reference, the visual indicator is coupled to and controlled by the bridge chip, and not the microprocessor. Thus, the Lin reference fails to teach a "visual indicator coupled to and controlled by a microprocessor," as recited in claim 1. Additionally, the RAM that is tested in the Lin reference is clearly a "hardware device" that is distinct from the motherboard (see, col. 3, lines 15 – 17: "... the hardware devices to be tested comprise a RAM device, a BIOS memory, and a display adapter"). Thus, the Lin reference also fails to teach a "visual indicator for providing a visual indication when a fault on a computer motherboard is detected," as recited in claim 1.

Claims 2 – 7 and 9 – 10 depend from claim 1 and are allowable for at least the reasons provided in support of the allowability of claim 1.

Claim 11 recites a method for detecting and indicating that there are no faults on a computer motherboard, including, *inter alia*, the steps of:

turning on a visual indicator when power is applied to the computer motherboard;  
requesting, retrieving and executing diagnostic instructions so as to detect faults on the computer motherboard; and

turning off the visual indicator when no faults on the computer motherboard are detected during execution of the diagnostic instructions.

The Office Action alleges that claim 11 "recites the limitations found in claims 1 and 2, with the addition of 'turning off said visual indicator when no faults on the computer motherboard are detected during execution of said diagnostic instructions.'"

Further, the Office Action states that “Lin uses a flashing LED as an indicator of component failure during a POST (as shown in Figures 5a and 5b). Eventually, the POST will complete (element 513 of Figure 5b). As shown in Figures 5a and 5b, when the POST completes without failure in any component, the testing has ceased and the LED will *not* indicate any more test results. Thus, the ‘indicator’ characteristic of the LED ceases.”

It is respectfully submitted that Lin does not teach or suggest the steps recited in claim 11 because Lin does not teach or suggest turning a visual indicator on, and then turning the visual indicator off when no faults are detected. Further, it is respectfully submitted that the “ceasing of the ‘indicator’ characteristic of the LED” is not a teaching of turning a visual indicator “off,” as recited in claim 11, particularly since the teaching of the Lin reference is that the LED is a “power LED” used to indicate that the computer has power and is running, as is discussed below.

The Office Action suggests that Lin discloses the step of turning a visual indicator on when power is applied to the computer motherboard at column 3, line 65 through column 4, line 1. The cited passage states that, “[t]he LED 36 preferably comprises a power LED inherently mounted on the computer casing which is used to indicate the power status of the computer 30 ...” However, if the Office Action construes the “power LED ... which is used to indicate the power status of the computer 30 ...” as the “visual indicator” that is turned on when power is applied to the motherboard, as recited in claim 11, then when the POST completes without any failure in any component, the power LED will remain “on” and not be turned “off,” as recited in claim 11. It is respectfully submitted that the feature of “turning off said visual indicator when no faults on said computer motherboard are detected,” as recited by claim 11 is not the same as the disclosure in Lin that the visual indicator “ceases to indicate any more test results,” as suggested in the Office Action. Therefore, the Lin reference does not anticipate the steps of claim 11.

Claims 12 – 15 and 17 – 18 depend from claim 11 and are allowable for at least the reasons provided in support of the allowability of claim 11.

Claims 19 – 21 and 23 – 25 are rejected on the same grounds as claims 11 – 15 and 17. Thus, 19 – 21 and 23 – 25 are allowable for at least the reasons provided with respect to claims 11 – 15 and 17.

Claim 26 recites an apparatus for detecting and indicating faults on a computer motherboard and in a memory subsystem of a computer system, including, *inter alia*, a microprocessor coupled to a host bus, to a general I/O port, and to a flash circuit, the microprocessor turning the visual indicator on through said general I/O port and requesting and retrieving a plurality of diagnostic instructions upon reception of an initialization signal to start said computer system, executing the diagnostic instructions for detecting faults in the computer motherboard prior to executing said diagnostic instructions for detecting faults in said memory subsystem, turning said visual indicator off if no faults are detected in said computer motherboard, and activating said flash circuit if faults are detected in said memory subsystem,” (emphasis added).

It is respectfully submitted, for the reasons provided above with respect to claims 1 and 11, that the Lin reference does not teach or suggest 1) a microprocessor turning a visual indicator on through a general I/O port, or 2) a microprocessor turning the visual indicator off if no faults are detected in a computer motherboard. Further, it is respectfully submitted that the Lin reference does not teach or suggest the operation of the visual indicator with respect to diagnostic testing of a computer motherboard because the Lin reference is only concerned with testing other hardware devices (namely, a RAM device, a BIOS memory, and a display adapter (col. 3, lines 15 – 17)). Thus, the Lin reference does not teach or suggest executing diagnostic instructions for detecting faults in a computer motherboard prior to executing diagnostic instructions for detecting faults in a memory subsystem (i.e. a RAM device).

Claims 27 and 28 depend from claim 26, and, therefore, are allowable for at least the reasons provided with respect to claim 26.

Claims 8, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin in view of BOXX Box Boxes Clever. The rejection is respectfully traversed.

Claims 8, 16 and 22 depend from claims 1, 11 and 19, respectively. It is respectfully submitted that BOXX Box Boxes Clever does not make up the deficiencies discussed above with respect to claims 1, 11 and 19, and, therefore, claims 8, 16 and